

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Backes	
Application No.: 10/780593	Group Art Unit: 2665
Filed: 02/18/2004	Examiner: Philpott
Title: Method for Associating Access Points with Stations Using Bid Techniques	
Attorney Docket No.: 160-056	

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF PURSUANT TO 37 C.F.R. § 1.192

This Appellant's brief is submitted in accordance with the Notice of Appeal filed
October 12, 2006.

I. Real Party in Interest

The real party in interest is AutoCell Laboratories, Inc.

II. Related Appeals and Interferences

Appellants are not aware of any appeals or interferences that are related to the present case.

III. Status of the Claims

Claims 1-7 are pending in this application. All of the pending claims were rejected in the Final Office Action dated July 24, 2006. No claims have been allowed. The rejections of independent claims 1, 5 and 7 are the subject of this appeal. The current state of the claims is shown in Appendix A.

IV. Status of Amendments

An amendment was filed June 7, 2006, in which claims 1 and 5 were amended. That Amendment was entered by the Examiner and considered in the preparation of the Final Office Action dated July 24, 2006. An after final amendment was submitted on September 19, 2006, in response to which an Advisory Action was mailed on October 5, 2006. While the Advisory Action does not explicitly state whether the after final amendment was entered, none of the claims were amended in the after final amendment, and the Examiner prepared a continuation sheet in response to Applicant's arguments.

V. Summary of Claimed Subject Matter

The subject matter of claims 1, 5 and 7 is a method by which an access point (“AP”) becomes associated with a station (“STA”) in a wireless environment. The terms “station” and “access point” are well known in the networking art. A station is a mobile wireless terminal device such as a PDA, cell phone or notebook computer. Access points are fixed location devices which provide network access to stations. In particular, a station obtains network access through a first access point with which it is associated, and may migrate to a second access point by dis-associating with the first access point and associating with the second access point. The method recited in claims 1, 5 and 7 includes steps executed by an access point, including collecting bid messages, selecting a bid message, and sending an accept message to the station which submitted the selected bid. Steps executed by stations in order to become associated with an access point are not limitations of the claims.

The claimed method is described in the Specification at pp. 41-43 in section “2.b AP Auction.” With regard to claims 1, 5 and 7, the collection of bids during the “Auction Interval” of steps (340, 342, Figure 21), described at the bottom of page 41, supports the limitation “at each of a plurality of access points within communication range of stations, repeatedly executing the steps of: collecting bid messages from stations not currently associated with that access point, each bid message indicative of a request to associate,” from claim 1, and the corresponding limitations of claims 5 and 7. The biased distance delta described in the last full paragraph of page 41 supports the limitation “including a

parameter related to the distance between the access point and the station”¹ from claim 1, and the corresponding limitations of claims 5 and 7. The claim limitation “selecting only a subset of the bid messages based at least in part on the parameter related to distance” from claim 1, and corresponding limitations from claims 5 and 7, are supported by the second full paragraph on page 42, including “the AP 12 selects the bid entries with the highest biased distance delta values, up to acceptsPerAuction entries.”² Finally, the limitation “sending an accept message to each station from which a selected bid message was received, the accept message for causing the station to associate with the access point” of claim 1, and the corresponding limitations of claims 5 and 7, are supported by the second full paragraph on page 42, including “the AP 12 ... sends a DRCP accept message to each of the STAs 16 corresponding to those entries (step (360)).”

VI. Grounds of Rejection to be Reviewed on Appeal

A. Claims 1 and 5 were rejected under 35 U.S.C. 103(a) over U.S. Patent Application Publication No. US 2004/0054767 A1 (“Karaoguz”), in view of U.S. Patent Application Publication No. US 2005/0117524 A1 (“Lee”), and further in view of U.S. Patent Application Publication No. US 2001/0048744 A1 (“Kimura”).

¹ See 4.c.2 Biased Distance Calculation at pp. 55-57 for an explanation of biased distance calculation

² See also the description of distance calculation at pp. 38-39

B. Claim 7 was rejected under 35 U.S.C. 103(a) over U.S. Patent Application Publication No. US 2004/0054767 A1 (“Karaoguz”), in view of U.S. Patent Application Publication No. US 2005/0117524 A1 (“Lee”), and further in view of U.S. Patent Application Publication No. US 2001/0048744 A1 (“Kimura”), in view of U.S. Patent Application No. US 2004/0121749 A1 (“Cui”).

VII. Argument

A. Claims 1 and 5 distinguish the combination of Karaoguz, Lee and Kimura because the selection by an access point of a subset of bid messages from stations is based at least in-part on a parameter related to distance.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claim 1 and 5 distinguish the combination of Karaoguz, Lee and Kimura because the selection of a subset of the bid messages is based at least in-part on a parameter related to distance. In the continuation sheet of the Advisory Action dated October 5, 2006, the Examiner suggests that Karaoguz teaches distance-based selection of a bid at paragraphs 0033 and 0041-0042. Those paragraphs

certainly do describe distance calculation, but that is not the claim limitation.

Claim 1 recites “**selecting only a subset of the bid messages based at least in part on** the parameter related to distance.” (emphasis added) Similarly, claim 5 recites “a parameter related to the distance ...maintaining a table including an entry for each station from which a bid message has been received, each entry including the parameter ... selecting only a subset of the bid messages based at least in part on the parameters in the table.” Nothing in Karaoguz suggests that distance between the access point and station is **used by the access point to select a bid from a collection of bids submitted by stations.**

Rather than using distance in bid selection, what Karaoguz teaches is that distance is used to determine geographic position information,³ which is provided to a central server,⁴ and then used by the central server to perform “network optimization.”⁵ In particular, the “network optimization” of Karaoguz is that the central server determines that some access points can be removed from the network and instructs those access points to power-off.⁶ The claimed invention has nothing to do with causing access points to power-off. Rather, the claimed invention controls associations between stations and access points by basing bid selection on a parameter related to distance. Further, the claimed invention dampens excessive migration of stations between access points by selecting only a subset of bid messages in a given cycle. Still further, unlike the Karaoguz teaching, in which a central server controls the network, the presently claimed

³ paragraph 0042

⁴ paragraph 0044

⁵ paragraph 0052

⁶ Id.

steps are executed by an access point. Because the claimed method is distributed to access points, it does not suffer from the scaling and single point of failure problems that plague the Karaoguz central server model. Since both the steps themselves and the result of the claimed invention differ from Karaoguz, claims 1 and 5 distinguish the cited combination.

The Examiner previously relied on Kimura for teaching selection of a subset of bid messages.⁷ Kimura describes a technique for providing network security and authentication. In the passage cited by the Examiner, specifically at paragraph 0052, Kimura teaches that a network administrator can manually reject an association request for security reasons. As with the rejection based on Karaoguz, this reasoning fails to consider all words of the recited claim. Unlike Kimura, the limitations recited in claim 1 are that a **subset** of bid messages is selected **by an access point**, and further that the selection is based on a parameter related to **distance**. Kimura teaches that selection is based on authentication (security) rather than distance, and is done manually by a network administrator from a workstation rather than automatically by an access point.⁸ Claims 1 and 5 therefore distinguish the cited combination.

With specific reference to claim 5, the Examiner has suggested that it is implicit that “the closest device is selected for association in order for the system to operate efficiently” because Karaoguz teaches that network optimization is performed.⁹ The Examiner even went so far as to take official notice that selecting the nearest bid is well known in the art. Applicant submits that such as

⁷ Final OA, July 24, 2006, Page 4, first full paragraph.

⁸ paragraphs 0051-0052

⁹ Final OA, July 24, 2006, Page 6, first paragraph.

official notice is erroneous. The term “optimization” without a further qualifier is indeterminate because systems can be optimized to achieve different goals. In the case of WLANs, one configuration would be for an access point to select the closest stations in order to optimize to provide high data rate for just a few stations, and another configuration would be for an access point to select the most distant bidding station that has little or no service from other access points in order to optimize to provide service to as many stations as possible. These optimizations are mutually exclusive because selecting the distant station will reduce the data rate available to the nearby stations, and the access point cannot simply accept all stations without risking overload. Note also that simply making a selection based on the closest distance can result in inefficient overloading of an AP.¹⁰ Since different configurations serve to achieve different optimizations, it is not reasonable to suggest that every possible configuration is taught by a reference that simply states that a network should be optimized, without further qualification. Further, as already discussed above, Karaoguz actually teaches that the desired optimization is powering off access points,¹¹ which is entirely different from selecting bids from stations.

¹⁰ See Specification at pp. 41-43.

¹¹ paragraph 0052

Claim 7 distinguishes the combination of Karaoguz, Lee, Kimura and Cui because the access point selects the bid submitted by the station suffering from the lowest data rate.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claim 7 distinguishes the cited references because the bid submitted by the station having the lowest data rate is selected by the access point. The Office suggests that Cui teaches this feature in paragraphs 009 and 0034, and in Table 1. However, Cui fails to teach any sort of bid selection in those passages, and certainly not bid selection based on data rate. What Cui teaches is that different data rates are assigned to different channels. In the Abstract, for example, Cui states that the “association” of data rates to channels is the improvement. The “association” of data rates with channels¹² is entirely unrelated to the “association” of access points to stations¹³. Consequently, Cui does not teach that a particular station should be selected by an access point because that station has a low data rate at its current access point, i.e., that the station suffering with the lowest data rate should be permitted to migrate at the expense of other stations.

¹² where “association” simply means assignment

¹³ where “association” means to have established communication through

Claim 7 therefore distinguishes the cited combination by reciting “selecting the bid from the station having the lowest data rate.”

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Accordingly, based on the nonobviousness of claims 1, 5 and 7 over the cited combinations, claims 2-4 and 6 are also nonobvious.

VIII. Conclusion

Appellants submit that the rejections of the present claims under 35 U.S.C. 103 are improper for at least the reasons set forth above. Appellants accordingly request that the rejections be withdrawn and the case put forward for allowance.

Respectfully submitted,

Date November 14, 2006

/Holmes W. Anderson/
Holmes W. Anderson, Reg. No. 37,272
Attorney/Agent for Applicant(s)
McGuinness & Manaras LLP
125 Nagog Park
Acton, MA 01720
(978) 264-6664

Docket No. 160-056

Appendix A - Claims

1. (previously presented) A method for use in an access point in a wireless communications environment including multiple access points and stations, wherein stations gain network access by associating with one or more of the access points, comprising:

at each of a plurality of access points within communication range of stations, repeatedly executing the steps of:

collecting bid messages from stations not currently associated with that access point, each bid message indicative of a request to associate, and including a parameter related to the distance between the access point and the station;

selecting only a subset of the bid messages based at least in part on the parameter related to distance; and

sending an accept message to each station from which a selected bid message was received, the accept message for causing the station to associate with the access point.

2. (original) The method of claim 1 wherein the step of sending an accept message sends an accept message to the station whose bid message included the parameter indicating the closest distance.

3. (original) The method of claim 2 wherein the accept message is sent only if a maximum number of station associations has not been exceeded.

4. (original) The method of claim 1 further comprising the step of maintaining a table including an entry for each station from which a bid message has been received, each entry including the parameter.

5. (previously presented) A method for use in an access point in a wireless communications environment including multiple access points and stations, wherein stations gain network access by associating with one or more of the access points, comprising:

at each of a plurality of the access points within communication range of the stations, repeatedly executing the steps of:

collecting bid messages from stations not currently associated with that access point, each bid message indicative of a request to associate, and including a parameter related to the distance between the access point and the station;

maintaining a table including an entry for each station from which a bid message has been received, each entry including the parameter;

selecting only a subset of the bid messages based at least in part on the parameters in the table; and

sending an accept message to each station which submitted a selected bid, the accept message for causing the station to associate with the access point.

6. (previously presented) The method of claim 1 wherein said selecting step further includes employing the parameter to select at least one of the bid messages based at least in part on an indication of data rate provided to the station by the access point with which the station is currently associated.

7. (previously presented) A method for use in an access point in a wireless communications environment including multiple access points and stations, wherein stations gain network access by associating with one or more of the access points, comprising:

periodically, at each of a plurality of access points within communication range of stations:

collecting bid messages from stations not currently associated with that access point, each bid message indicative of a request to associate;

selecting the bid from the station having the lowest data rate; and

sending an accept message to the station which submitted the selected bid, the accept message indicating that the station is permitted to associate with the access point.

Appendix B - Evidence Submitted

None.

Appendix C - Related Proceedings

None.